

## **ABSTRACT**

A high density thermal recording and magnetic reading recording medium and system combines near-field optical recording and the sensitive reading technique of the magneto-resistive head to overcome the restriction of optical diffraction limitation to increase the density of the recording medium. It mainly has sub-micro cylindrical lenses directly formed on the substrate of the recording medium to enable a near-field optical laser to write and generate smaller optical spots thereby to achieve smaller recording bits and increase the recording density.